



SHANGSI

表面贴装瞬间抑制二极管

隔离电压6.8 --- 550 V

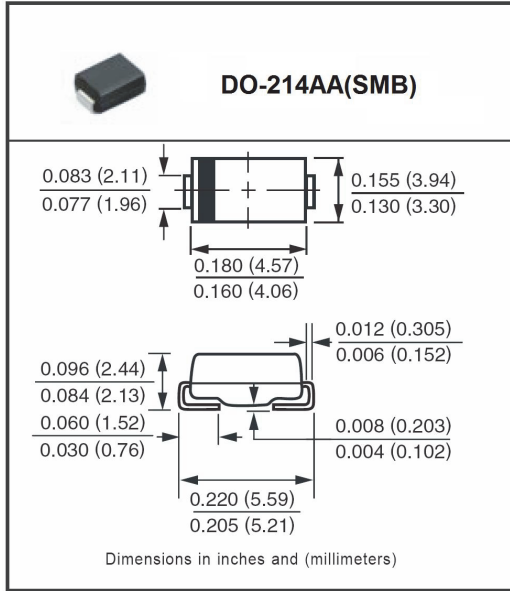
峰值功率600W

TSMB6.8A thru 550A

Surface Mount Transient Voltage Suppressors

Stand-off Voltage 6.8 to 550V

Peak Pulse Power 600W



特征 Features

- 表面安装应用 For surface mount applications
- 玻璃钝化芯片 Glass passivated junction
- 快速响应时间 Very fast response time
- 优良钳位能力 Excellent clamping capability
- 最高焊接温度 260°C/10 秒  
High temperature soldering guaranteed:  
260°C/10 seconds at terminals
- 600W 峰值脉冲保护能力  
600W peak pulse power capability
- 10/1000µs 波形, 重复率:0.01%  
a 10/1000µs waveform, repetition rate (duty cycle):  
0.01%
- 引线 and 管体皆符合 RoHS 标准。  
Lead and body according with RoHS standard

机械数据 Mechanical Data

- 封装: 塑料封装 Case: Molded plastic body
- 端子: 焊料被镀 Terminals: Solder plated
- 极性: 色环端为负极 Polarity: Color band denotes cathode end
- 安装位置: 任意 Mounting Position: Any
- 重量 0.003盎司,0.093克 Weight: 0.003 ounce, 0.093 gram

产品的双向应用 Devices for Bidirectional Applications

“BI”为双向, 使用“CA”作后缀(如: P6SMB10CA) For bi-directional devices, use suffix CA (e.g. P6SMB10CA).

极限值和温度特性 TA= 25°C 除非另有规定。

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
峰值脉最大冲功率 Peak pulse power dissipation with a 10/1000µs waveform <sup>(1, 2)</sup> (see fig. 1)	P <sub>PPM</sub>	600	W
耗散功率 Power Dissipation on Infinite Heat Sink at TA=50°C	P <sub>M(AV)</sub>	5.0	W
最大峰值脉冲电流 Peak pulse current with a 10/1000µs waveform <sup>(1)</sup>	I <sub>PPM</sub>	See Next Table	A
正向峰值浪涌电流 8.3ms单一正弦半波 Peak forward surge current 8.3ms single half sine-wave uni-directional only <sup>(3)</sup>	I <sub>FSM</sub>	400	A
最大瞬时正向电压 Maximum Instantaneous Forward Voltage at 100A for Unidirectional Only (Note 4)	V <sub>F</sub>	3.5/5.0	V
典型热阻 Typical thermal resistance <sup>(3)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>	100 20	°C/W
工作结温和存储温度 Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55---+150	°C

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above TA=25°C per Fig. 2.  
 2. Mounted on 5.0x5.0mm copper pad to each terminal.  
 3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only.  
 4. VF < 3.5V for VBR ≤ 200V and VF < 6.5V for VBR > 201V.



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# TSMB6.8A thru 550A

## Surface Mount Transient Voltage Suppressors

### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified

Part Number (Uni)	Part Number (Bi)	Marking		Reverse Stand off Voltage $V_R$ (Volts)	Breakdown Voltage $V_{BR}$ (Volts) @ $I_T$		Test Current $I_T$ (mA)	Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V)	Maximum Peak Pulse Current $I_{PP}$ (A)	Maximum Reverse Leakage $I_R$ @ $V_R$ ( $\mu$ A)
					MIN	MAX				
TSMB6.8A	TSMB6.8CA	6V8A	6V8C	5.80	6.45	7.14	10	10.5	58.1	1000
TSMB75A	TSMB75CA	7V5A	7V5C	6.40	7.13	7.88	10	11.3	54.0	500
TSMB8.2A	TSMB8.2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	50.4	200
TSMB9.1A	TSMB9.1CA	9V1A	9V1C	7.78	8.65	9.55	1	13.4	45.5	50
TSMB10A	TSMB10CA	10A	10C	8.55	9.50	10.50	1	14.5	42.1	10
TSMB11A	TSMB11CA	11A	11C	9.40	10.50	11.60	1	15.6	39.1	5
TSMB12A	TSMB12CA	12A	12C	10.20	11.40	12.60	1	16.7	36.5	5
TSMB13A	TSMB13CA	13A	13C	11.10	12.40	13.70	1	18.2	33.5	1
TSMB15A	TSMB15CA	15A	15C	12.80	14.30	15.80	1	21.2	28.8	1
TSMB16A	TSMB16CA	16A	16C	13.60	15.20	16.80	1	22.5	27.1	1
TSMB18A	TSMB18CA	18A	18C	15.30	17.10	18.90	1	25.5	24.2	1
TSMB20A	TSMB20CA	20A	20C	17.10	19.00	21.00	1	27.7	22.0	1
TSMB22A	TSMB22CA	22A	22C	18.80	20.90	23.10	1	30.6	19.9	1
TSMB24A	TSMB24CA	24A	24C	20.50	22.80	25.20	1	33.2	18.4	1
TSMB27A	TSMB27CA	27A	27C	23.10	25.70	28.40	1	37.5	16.3	1
TSMB30A	TSMB30CA	30A	30C	25.60	28.50	31.50	1	41.4	14.7	1
TSMB33A	TSMB33CA	33A	33C	28.20	31.40	34.70	1	45.7	13.3	1
TSMB36A	TSMB36CA	36A	36C	30.80	34.20	37.80	1	49.9	12.2	1
TSMB39A	TSMB39CA	39A	39C	33.30	37.10	41.00	1	53.9	11.3	1
TSMB43A	TSMB43CA	43A	43C	36.80	40.90	45.20	1	59.3	10.3	1
TSMB47A	TSMB47CA	47A	47C	40.20	44.70	49.40	1	64.8	9.4	1
TSMB51A	TSMB51CA	51A	51C	43.60	48.50	53.60	1	70.1	8.7	1
TSMB56A	TSMB56CA	56A	56C	47.80	53.20	58.80	1	77.0	7.9	1
TSMB58A	TSMB58CA	58A	58C	52.78	55.10	60.90	1	79.8	7.7	1
TSMB62A	TSMB62CA	62A	62C	53.00	58.90	65.10	1	85.0	7.2	1
TSMB68A	TSMB68CA	68A	68C	58.10	64.60	71.40	1	92.0	6.6	1
TSMB75A	TSMB75CA	75A	75C	64.10	71.30	78.80	1	103.0	5.9	1
TSMB82A	TSMB82CA	82A	82C	70.10	77.90	86.10	1	113.0	5.4	1
TSMB91A	TSMB91CA	91A	91C	77.80	86.50	95.50	1	125.0	4.9	1
TSMB100A	TSMB100CA	100A	100C	85.50	95.00	105.00	1	137.0	4.5	1
TSMB110A	TSMB110CA	110A	110C	94.00	105.00	116.00	1	152.0	4.0	1
TSMB120A	TSMB120CA	120A	120C	102.00	114.00	126.00	1	165.0	3.7	1
TSMB130A	TSMB130CA	130A	130C	111.00	124.00	137.00	1	179.0	3.4	1
TSMB150A	TSMB150CA	150A	150C	128.00	143.00	158.00	1	207.0	2.9	1
TSMB160A	TSMB160CA	160A	160C	136.00	152.00	168.00	1	219.0	2.8	1
TSMB170A	TSMB170CA	170A	170C	145.00	162.00	179.00	1	234.0	2.6	1
TSMB180A	TSMB180CA	180A	180C	154.00	171.00	189.00	1	246.0	2.5	1
TSMB200A	TSMB200CA	200A	200C	171.00	190.00	210.00	1	274.0	2.2	1
TSMB220A	TSMB220CA	220A	220C	185.00	209.00	231.00	1	328.0	1.9	1
TSMB250A	TSMB250CA	250A	250C	214.00	237.00	263.00	1	344.0	1.8	1
TSMB300A	TSMB300CA	300A	300C	256.00	285.00	315.00	1	414.0	1.5	1
TSMB350A	TSMB350CA	350A	350C	300.00	332.00	368.00	1	482.0	1.3	1
TSMB400A	TSMB400CA	400A	400C	342.00	380.00	420.00	1	548.0	1.1	1
TSMB440A	TSMB440CA	440A	440C	376.00	418.00	462.00	1	602.0	1.0	1
TSMB480A	TSMB480CA	480A	480C	408.00	456.00	504.00	1	658.0	0.9	1
TSMB510A	TSMB510CA	510A	510C	434.00	485.00	535.00	1	698.0	0.9	1
TSMB530A	TSMB530CA	530A	530C	477.00	503.50	556.50	1	725.0	0.8	1
TSMB540A	TSMB540CA	540A	540C	486.00	513.00	567.00	1	740.0	0.8	1
TSMB550A	TSMB550CA	550A	550C	495.00	522.50	577.50	1	760.0	0.8	1

For bidirectional type having VRWM of 10 volts and less, the IR limit is double.

For parts without A (VBR is + 10% and VC is 5% higher than with A parts).

### RATING AND CHARACTERISTIC CURVES

Figure 1 - Peak Pulse Power Rating

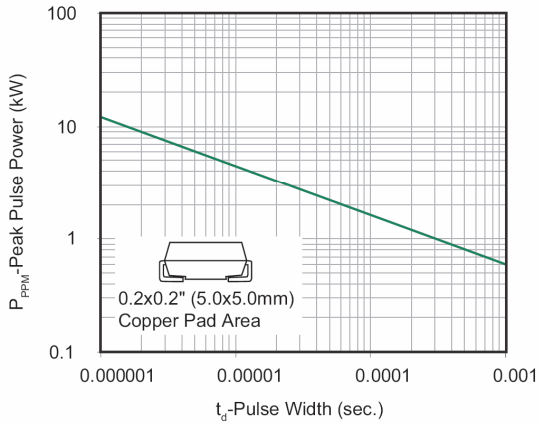


Figure 2 - Peak Pulse Power or Current Derating Curve vs Initial Junction Temperature

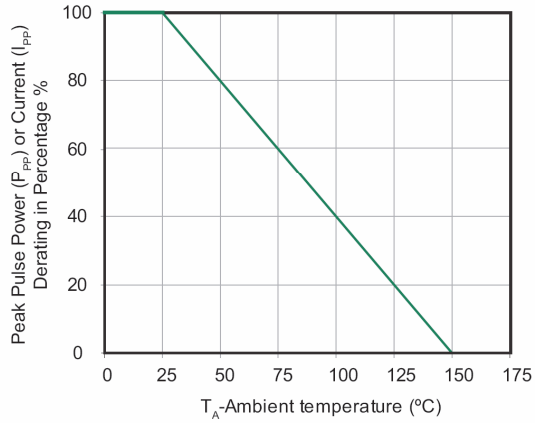


Figure 3 - Pulse Waveform

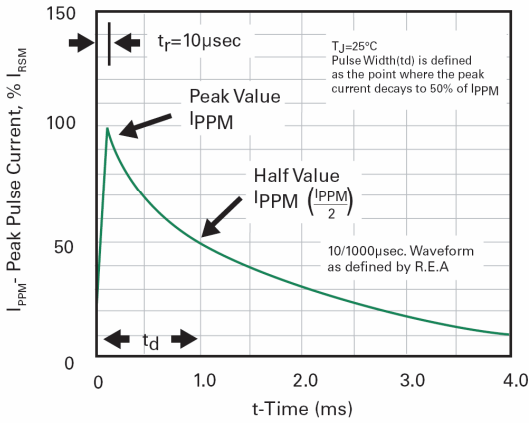


Figure 4 - Typical Junction Capacitance

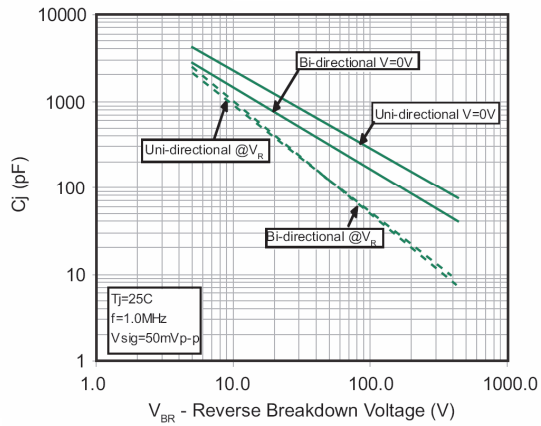


Figure 5 - Steady State Power Derating Curve

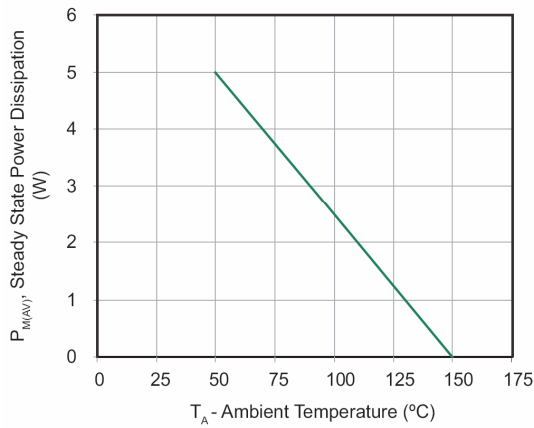
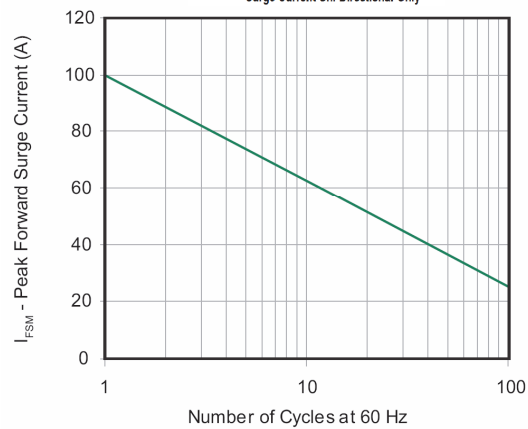
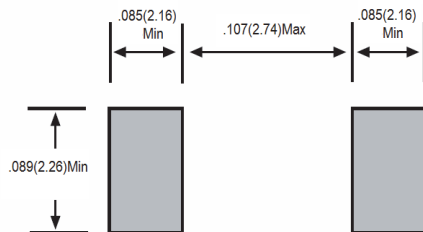


Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only



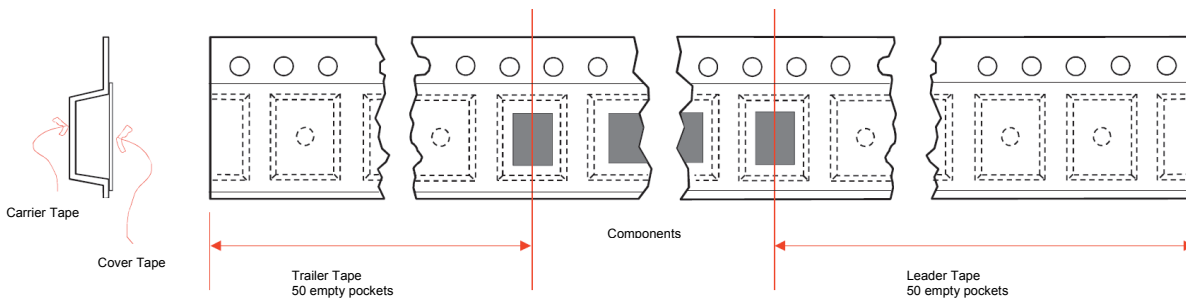
### Mounting Pad Layout



### Packing

Part number	Component Package	Quantity	Packaging Option
TSMB6.8A-550A	DO-214AA SMB	3000	Tape & Reel – 12mm/13" tape

### DO-214AA SMB Tape Leader and Trailer Configuration



### Tape and Reel Specification

